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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/662,361

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Fumitaka Goto

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EXAMINER

DHINGRA, PAWANDEEP

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/662,361	Applicant(s) GOTO ET AL.	
	Examiner PAWANDEEP S. DHINGRA	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7,8,10,11,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7,8,10,11,15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- This action is responsive to the following communication: Amendment after non-final action filed on 12/17/2010.
- Claims 1, 7-8, 10-11 and 15-16 are pending.

Response to arguments

Applicant's amendments, filed 12/17/2010 have been entered and fully considered. However, applicant's arguments filed 12/17/2010 have been fully considered but they are not persuasive.

Applicant argues that none of the cited references is seen to teach the newly amended features of the independent claims. Namely, applicant argues that no cited references is able to teach alone the features such as "acquiring a feature amount using a histogram acquired from a DC component of a minimum coded unit before execution of a first correction and before execution of a second correction is completed for the entire image data and after processing data corresponding to a non-print region in the borderless print mode is completed so that a feature amount of image data corresponding to the non-print region is excluded from the acquired feature amount".

In reply, examiner that asserts that combination of Uekusa with Shoji, Jones and Shima is successfully shown to teach the above features as argued by the applicant, please see rejections below.

Uekusa discloses an image processing apparatus (see figure 1) comprising: a corrector, arranged to apply, to image data (see claim 7), wherein said corrector acquires the feature amount using a histogram acquired (see paragraphs 46-48, 108-

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112, fig. 12 with text), before execution of the first correction and before execution of the second correction is completed for the entire image data so that a feature amount of image data is excluded from the feature amount acquired by said corrector (see figs. 1-3, claim 7; paragraphs 30-37, 130-138).

Jones teaches wherein image data is decompressed from JPEG-compressed image data (see paragraphs 3, 25-29); acquiring a feature amount (image data) using a histogram acquired from a DC component (DC coefficients) of a minimum coded unit (8x8 blocks, also see fig. 2) before processing of image data is completed for the entire image data (see paragraphs 29-38).

Shima teaches print an image on the print medium in a borderless print mode (marginless printing mode) based on the image data output (see figs. 6 & 11 with text); acquiring a data amount after processing data corresponding to a non-print region in the borderless print mode is completed so that a data amount of image data corresponding to the non-print region is excluded from the data amount acquired (see figs. 6 & 11 with text, paragraphs 60, 67, 70).

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 10 recites a computer-readable storage medium, but neither the claim nor the disclosure limit the medium to the statutory embodiments. Such recitation could be reasonably understood to include computer readable media that cover signals per se, which the USPTO must reject under 35 U.S.C. § 101 as covering both non-statutory subject matter and statutory subject matter. In an effort to assist the Applicant in overcoming a rejection or potential rejection under 35 U.S.C. § 101 in this situation, the examiner suggests the following approach: a claim drawn to such a computer readable medium that covers both transitory and non-transitory embodiments may be amended to narrow the claim to cover only statutory embodiments to avoid a rejection under 35 U.S.C. § 101 by adding the limitation "non-transitory" to the claim.

Examiner Notes

Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 7-8, 10 and 15 are rejected under 35 U.S.C. 103 as being unpatentable over Uekusa et al., US 2001/0013953 in view of Shoji Atsuyuki, JP-9037092 further in view of Jones et al., US 2003/0026478 further in view of Shima, US 2002/0036665.

Re claim 1, Uekusa et al. discloses an image processing apparatus (see figure 1) comprising: a corrector, arranged to apply, to image data (see claim 7) stored in a memory area (see claim 7 & paragraphs 31-35, 130-138 note that source profile, table, and input image data are stored in memory), a first correction according to a feature amount of the entire image data (input image data) (see abstract), and a second correction (i.e. color matching) which is different from the first correction (see abstract, figs. 1-4, note that color matching step is performed on the corrected image data and is different from first step of correction image input data); a processor (see figure 2 and claim 7), arranged to apply an image process required to print on a print medium to the image data output from said corrector (see claim 7 and figures 1-3; paragraphs 0031-0037); and a recorder, arranged to print an image on the print medium based on the image data output from said processor (see figures 1-3, paragraphs 31-37, 136-138), wherein said corrector acquires the feature amount using a histogram acquired (see paragraphs 46-48, 108-112, fig. 12 with text), before execution of the first correction and before execution of the second correction is completed for the entire image data so that

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a feature amount of image data is excluded from the feature amount acquired by said corrector (see figs. 1-3, claim 7, abstract, and paragraphs 30-37, 83, 130-138).

Uekusa fails to disclose image data stored in a band memory or a block memory assigned to a memory area, wherein image data is decompressed from JPEG-compressed image data; print an image on the print medium in a borderless print mode based on the image data output; acquiring a feature amount using a histogram acquired from a DC component of a minimum coded unit before processing of image data is completed for the entire image data, and after processing data corresponding to a non-print region in the borderless print mode is completed so that a feature amount of image data corresponding to the non-print region is excluded from the feature amount acquired by said corrector, and wherein the minimum coded unit includes the DC component and AC components which are obtained between the decompression of the JPEG compressed image data.

However, Shoji teaches image data stored in a band memory or a block memory assigned to a memory area (see paragraphs 37-40).

Jones teaches wherein image data is decompressed from JPEG-compressed image data (see paragraphs 3, 25-29); acquiring a feature amount (image data) using a histogram acquired from a DC component (DC coefficients) of a minimum coded unit (8x8 blocks, also see fig. 2) before processing of image data is completed for the entire image data (see paragraphs 29-38, figs. 4-9), and wherein the minimum coded unit includes the DC component and AC components (see fig. 2) (also see figs 1, 3) which are obtained between the decompression of the JPEG-compressed image data (see

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paragraphs 2-3, 25-33, also note that this limitation is also quite apparent as a typical JPEG standard).

Shima teaches print an image on the print medium in a borderless print mode (marginless printing mode) based on the image data output (see figs. 6 & 11 with text); acquiring a data amount after processing data corresponding to a non-print region in the borderless print mode is completed so that a data amount of image data corresponding to the non-print region is excluded from the data amount acquired (see figs. 6 & 11 with text, paragraphs 60, 67, 70).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the image processing method & apparatus as disclosed by Uekusa to include the memory management techniques as taught by Shoji and JPEG compression & histogram computing techniques as taught by Jones and marginless printing techniques as taught by Shima in order to have the corrector acquire the feature amount from data of a representative value group of the image data stored in the memory area, and then release the memory area storing the representative value group, before execution of the first correction and before execution of the second correction is completed for the entire image data such that an image processing system is achieved in which the processing is performed on blocks of image data and the memory is released block by block before the processing for the entire image data is completed for the benefit of without extending the memory space, carrying out printing processing efficiently and with maximum reservation of availability as taught by Shoji at paragraph 104 and for the benefit of efficiently computing, determining and processing

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of the JPEG compression of images as taught by Jones at paragraph 11 and to provide a printer host enabled to lighten a burden imposed on a user when marginless printing is performed as taught by Shima at paragraph 7.

Re claim 7, Uekusa et al. further discloses the feature amount acquired by said corrector includes information associated with some colors that represents a highlight part (see figure 11, paragraph 0025), information associated with some colors that represents a shadow part (see paragraph 0025), and information associated with hue and saturation in the entire image data or partial data (see paragraphs 0072-0074) stored in the memory area (see fig. 1-4, claim 7 & paragraph 31-35, 83, 96, 130-138, 149, note that source profile, table, and input image data are stored in memory).

Regarding claims 8 & 10, they are interpreted and thus rejected for the reasons set forth above in the rejection of claim 1, since claims 8 & 10 disclose a method, and a computer readable medium of instructions for carrying out the method that corresponds to the image processing system of claim 1, thus the method is inherent and it simply provides functionality for the structural implementation found in the image processing system of claim 1.

Re claim 15, Uekusa discloses an operation panel (see figure 1) which receives the selection of image stored in the memory card and a selection of image process to be applied to the selected image (see paragraphs 30-37, 83-86, 130-138, 122, 146).

5. Claims 11 and 16 are rejected under 35 U.S.C. 103 as being unpatentable over Uekusa et al., US 2001/0013953 in view of Tachibana et al., US 5,812,283 further in

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view of Shoji Atsuyuki, JP-9037092 further in view of Jones et al., US 2003/0026478 further in view of Shima, US 2002/0036665.

Re claim 11, Uekusa et al. further discloses a printer (see figure 1) comprising: an interface, arranged to input at least partial image data of a selected image (i.e. input image) from a memory (see figure 1, and steps S10-S90 in figure 2, paragraph 83); and a processor (see figure 1), arranged to perform a first process for performing correction, which is based on the amount of characteristic of the selected image (i.e. input image) expressed by the input image data, on the selected image (see figures 2-3, abstract, and paragraphs 0031-0067, and claim 7), and a second process (i.e. color matching) for performing predetermined processing on the selected image (see paragraphs 31-37, 83-84, 130-138, 122, 146), the first and second processes being applied to image data in memory unit of the selected image using a memory assigned to a memory area (see claim 7 & paragraph 31, 35, 83, 96, 130-138, 149, 156 note that source profile, input image data, values and application software or programs are stored in memory, which is used by the computer or CPU to carry out at least one of the first and second processes), wherein the amount of the characteristic is acquired using a histogram acquired (see paragraphs 46-48, 108-112, fig. 12 with text), before the first and second processes are performed on image data so that a feature amount of image data is not included in the amount of the characteristic (see figs. 1-3, claim 7, abstract, and paragraphs 30-37, 83, 130-138, 122, 146).

Uekusa et al. fails to disclose a printer comprising: an interface, arranged to input at least partial image data of a selected image not from a computer but from a memory

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card, and to decompress the input image data which is JPEG-compressed image data; performing correction, on the a selected image expressed by decompressed image data; the image processes being applied to image data in a band unit or a block unit of the selected image using a band memory or a block memory assigned to a memory area, wherein, in a borderless print mode, the amount of the characteristic is acquired using a histogram acquired from a DC component of a minimum coded unit before performing processing on image data in the band unit or the block unit of the selected image using a band memory or a block memory, and after processing data corresponding to a non-print region is completed so that a feature amount of image data corresponding to the non-print region is not included in the amount of characteristic, and wherein the minimum coded unit includes the DC component and AC components which are obtained between the decompression of the JPEG-compressed image data.

However, Tachibana et al. teaches a printer (fig. 1, facsimile) comprising: an interface, arranged to input at least partial image data of a selected image not from a computer but from a memory card (see figures 1-9; column 2, line 20-column 6, line 11).

Shoji teaches the image processes being applied to image data in a band unit or a block unit of the selected image using a band memory or a block memory assigned to a memory area (see paragraphs 37-48), wherein the amount of the characteristic is acquired from a input image data stored in the memory area, before performing processing on image the data in the band unit or the block unit of the selected image using a band memory or a block memory (see paragraphs 41-48, 58-67, 81) (see also paragraphs 22-29).

Jones teaches decompressing input image data which is JPEG-compressed image data (see paragraphs 3, 25-29); performing correction (updating i, j; 32 in fig. 9), on the a selected image expressed by decompressed image data (see abstract; fig. 9 with text); acquiring amount of characteristic (image data) using a histogram acquired from a DC component (DC coefficients) of a minimum coded unit (8x8 blocks, also see fig. 2) before processing of image data is performed on the entire image data (see paragraphs 29-38, figs. 4-9), and wherein the minimum coded unit includes the DC component and AC components (see fig. 2) (also see figs 1, 3) which are obtained between the decompression of the JPEG-compressed image data (see paragraphs 2-3, 25-33, also note that this limitation is also quite apparent as a typical JPEG standard).

Shima teaches in a borderless print mode (marginless printing mode), amount of data is acquired after processing data corresponding to a non-print region in the borderless print mode is completed so that a data amount of image data corresponding to the non-print region is not included in the amount of image data (see figs. 6 & 11 with text, paragraphs 60, 67, 70).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the image processing method & apparatus as disclosed by Uekusa to include the image recording apparatus as taught by Tachibana and memory management techniques as taught by Shoji and JPEG compression & histogram computing techniques as taught by Jones and marginless printing techniques as taught by Shima for the benefit of having a cost-effective and enhanced performance of image processing without using a large capacity memory as taught by Tachibana at column 1,

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lines 30-60, and figures 6-9, and without extending the memory space, carrying out printing processing efficiently and with maximum reservation of availability as taught by Shoji at paragraph 104 and for the benefit of efficiently computing, determining and processing the JPEG compression of images as taught by Jones at paragraph 11 and to provide a printer host enabled to lighten a burden imposed on a user when marginless printing is performed as taught by Shima at paragraph 7.

Re claim 16, Uekusa discloses an inkjet printer (see paragraph 31). Tachibana et al. teaches an inkjet printer (column 8, line 7) comprising: a print head (i.e. recording head) for inkjet printing, arranged to discharge ink from a nozzle in accordance with image data output from the processor (see column 2, lines 38-41, column 3, lines 16-44). Rest of claim 16 essentially recites similar features as claim 11 and is rejected on the same grounds.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAWANDEEP S. DHINGRA whose telephone number is (571)270-1231. The examiner can normally be reached on M-F, 9:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. D./

Examiner, Art Unit 2625

/David K Moore/

Supervisory Patent Examiner, Art Unit 2625